

CLAIMS

Therefore, having thus described the invention, at least the following is claimed:

- 1 *Sub A* 1. A first digital subscriber line (DSL) modem communicatively coupled
 2 with a second DSL modem, the first DSL modem comprising:
 3 a digital signal processor configured to selectively configure at least one system
 4 parameter in response to an identification of a manufacturer of the second DSL modem;
 5 and
 6 a memory device communicatively coupled to the digital signal processor
 7 configured to store the at least one system parameter, wherein the system parameter is
 8 pre-configured to optimize data communications between the first and second DSL
 9 modems.
- 1 2. The modem of claim 1, wherein the memory device is configured to store
 2 at least one operational algorithm pre-configured to optimize data communications
 3 between the first and second DSL modems.
- 1 3. The modem of claim 1, wherein the digital signal processor applies at least
 2 one system parameter upon initial power-up in response to a default manufacturer
 3 associated with the second DSL modem.
- 1 4. The modem of claim 2, wherein the digital signal processor applies at least
 2 one operational algorithm upon initial power-up in response to a default manufacturer
 3 associated with the second DSL modem.
- 1 5. The modem of claim 3, wherein the digital signal processor is configured
 2 to compare the default manufacturer identification with actual manufacturer identification
 3 information received during DSL initialization training.

1 6. The modem of claim 5, wherein the digital signal processor is configured
2 to determine if expected system performance gains associated with retraining the DSL
3 justify a retrain with system parameters previously identified as suitable for optimizing
4 data communications between the first and second DSL modems.

1 7. The modem of claim 5, wherein the modem is configured to replace the
2 default manufacturer associated with the second DSL modem with the actual
3 manufacturer identification information received during DSL initialization training.

1 ~~8.~~ A digital subscriber line (DSL) communication system, comprising:
2 a first modem configured to appropriately apply at least one system parameter pre-
3 configured to optimize data communications with DSL modems originating from a
4 specific manufacturer;
5 a two-wire pair telephone line communicatively coupled to the first modem; and
6 a second modem communicatively coupled to the two-wire pair telephone line.

1 9. The digital subscriber line (DSL) of claim 8, wherein the first modem is
2 configured to appropriately apply at least one operational algorithm responsive to the
3 manufacturer of the second modem.

1 10. The digital subscriber line (DSL) of claim 8, wherein the first modem is
2 pre-configured with a set of system parameters selected to optimize data communications
3 on a DSL formed with a second modem from a particular manufacturer.

1 11. The digital subscriber line (DSL) of claim 9, wherein the first modem is
2 pre-configured with at least one operational algorithm pre-configured to optimize data
3 communications on a DSL formed with a second modem from a particular manufacturer.

1 12. A digital subscriber line (DSL) modem, comprising:
 2 means for applying a default variable identifying the manufacturer of a
 3 communicatively coupled remote DSL modem; and
 4 means for selectively applying at least one system parameter during initial DSL
 5 system training in response to the identified manufacturer of the remote modem.

1 13. The modem of claim 12, further comprising:
 2 means for selectively applying at least one operational algorithm during initial
 3 DSL system training in response to the identified manufacturer of the remote modem.

1 14. The modem of claim 12, further comprising:
 2 means for determining if at least one system parameter responsive to the actual
 3 manufacturer of the remote modem would result in a measurable difference in DSL data
 4 transfer characteristics when compared to current DSL data transfer characteristics using
 5 the default variable identified system parameter.

1 15. The modem of claim 12, wherein the means for applying a default variable
 2 comprises a memory device.

1 16. The modem of claim 12, wherein the means for selectively applying at
 2 least one system parameter comprises a table in a memory device responsive to the
 3 default variable.

1 17. The modem of claim 13, further comprising:
 2 means for determining if at least one operational algorithm responsive to the
 3 actual manufacturer of the remote modem would result in a measurable difference in DSL
 4 data transfer characteristics when compared to current DSL data transfer characteristics
 5 using the default variable identified at least one operational algorithm.

1 18. The modem of claim 14, wherein the means for determining if at least one
2 system parameter responsive to the actual manufacturer of the remote modem would
3 result in a measurable difference in DSL data transfer characteristics comprises a digital
4 signal processor in communication with a memory device.

1 19. The modem of claim 17, wherein the means for determining if at least one
2 operational algorithm responsive to the actual manufacturer of the remote modem would
3 result in a measurable difference in DSL data transfer characteristics comprises a digital
4 signal processor in communication with a memory device.

1 20. A method for optimizing digital subscriber line (DSL) system performance
2 between first and second DSL modems supplied by different manufacturers, comprising:
3 supplying a default manufacturer identification to a first modem;
4 applying appropriate system parameters in response to the default manufacturer
5 identification;
6 initiating DSL system start-up training;
7 receiving the actual manufacturer identification from the second DSL modem;
8 making a determination if the system parameters are suitable for DSL operation
9 with the actual manufacturer of the second modem;
10 adjusting system parameters when required in response to the actual manufacturer
11 identification; and
12 establishing the DSL link.

1 21. The method of claim 20, wherein the step of supplying a default
2 manufacturer is responsive to the most probable vendor in a geographic area.

1 22. The method of claim 20, wherein the step of making a determination if the
2 system parameters are suitable for DSL operation with the actual manufacturer of the
3 second DSL modem is replaced with the steps of:

4 replacing the default manufacturer identification information with the actual
5 received manufacturer identification; failing the DSL system start-up training; and
6 reinitiating the DSL system start-up training.

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